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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,315	03/12/2004	M. Pascal Turquis	GRY-122US	8200

23122 7590 10/27/2004

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EXAMINER	
RIDDLE, KYLE M	

ART UNIT	PAPER NUMBER
3748	

DATE MAILED: 10/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/799,315	TURQUIS, M. PASCAL	
	Examiner	Art Unit	
	Kyle M. Riddle	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,8-10 and 16* is/are rejected.

7)☒ Claim(s) *3-7 and 11-15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 March 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *03122004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings filed on 12 March 2004 are acceptable subject to correction of the informalities indicated on the attached "Notice of Draftsperson's Patent Drawing Review," PTO-948. In order to avoid abandonment of this application, correction is required in reply to the Office action. The correction will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:

- Page 3, paragraph 11, line 8 of the paragraph, "waves" should read --wave--;

- Page 3, paragraph 13, lines 3 and 7 of the paragraph, the cited formulas representing time units appear to the examiner to inverted as the resulting units would come out to be the inverse of time units;

- Page 12, paragraph 56, line 1 of the paragraph, "weave" should read --wave--.

Appropriate correction is required.

Claim Objections

3. Claim 8 recites the limitation "the intake valves" followed by a delineation of "at least one first and second valves per said cylinder" in claim 8, lines 1-3. There is insufficient antecedent basis for this limitation in the claim. No intake valves or cylinder is previously mentioned in the claim.

4. Claim 8 is objected to because of the following informalities: Claim 8, line 5, the claim is unclear as to what "it" is referring. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Akagi et al. (U.S. Patent 5,054,439).

Akagi et al. disclose an intake system comprising throttle valves 13, 16, 21, and 24 introducing intake air into a primary intake port 2, secondary intake port 3, and auxiliary intake ports 4, 5 (column 4, lines 36-45, column 5, lines 20-25), closing the secondary port 3, then closing the primary port 2 and then the auxiliary ports 4, 5 to propagate overpressure waves based on the length of the pipes and timing difference between the primary and secondary intake ports 2, 3 (column 5, lines 44-61, column 6, lines 9-13, and Figure 3).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akagi et al. in view of Hitomi et al. (U.S. Patent 5,421,296).

Akagi et al. disclose an intake system comprising intake throttle valves 13, 16, 21, and 24 introducing intake air into a primary intake port, secondary intake port, and auxiliary intake

ports, closing the secondary port, then closing the primary port and then the auxiliary ports to propagate overpressure waves based on the length of the pipes and timing difference between the primary and secondary intake ports. They, however, fail to disclose a control unit for valve actuation.

Hitomi et al. teach an engine intake apparatus providing a positive pressure wave (column 2, lines 62-65) having a control unit 30 to actuate valve timing to obtain a wave resonance supercharging effect (column 8, lines 44-56). It would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the teaching by Hitomi et al. in the intake system of Akagi et al., since the use thereof would have provided a control mechanism for actuating the valve timing to promote the correct wave propagation.

9. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akagi et al. in view of Hitomi et al., as applied to claim 8 above, and further in view of Pischinger (U.S. Patent 5,211,146).

Akagi et al., as modified by Hitomi et al., disclose the intake system cited above, however, fail to disclose electromagnetic or electromechanical actuating devices.

Pischinger teach an inlet control mechanism to promote overpressure waves (column 2, lines 59-63) using electromechanical or electromagnetic valve setting devices (column 3, lines 16-18, column 4, lines 64-68). It would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the teaching by Pischinger in the intake system of Akagi et al., as modified by Hitomi et al., since the use thereof

would have provided a valve actuating mechanism with continuous adjustment control to enable the proper wave propagation effects.

Allowable Subject Matter

10. Claims 3-7, 11-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. The IDS (PTO-1449) filed on 12 March 2004 has been considered. An initialized copy is attached hereto.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of 3 patents.

- Okubo (U.S. Patent 4,515,115) discloses an inertia supercharger providing a formula for calculating the optimum intake pipe length for wave propagation.

- Okimoto et al. (U.S. Patent 4,614,173) disclose an intake system that controls intake valve opening and closing to promote wave propagation.

- Okimoto et al. (U.S. Patent 4,756,284) disclose an intake system controlling multiple intake valves promoting wave propagation.

Communication

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle M. Riddle whose telephone number is (703) 306-3409, and effective 22 November 2004 will be (571) 272-4864. The examiner can normally be reached on M-F (07:30-5:00) Second Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571) 272-4859 effective 22 November 2004. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kyle M. Riddle
Examiner
Art Unit 3748

kmr

THOMAS DENION
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